

REMARKS

Favorable reconsideration of this application is respectfully requested in view of the following remarks.

At the outset, the undersigned expresses his appreciation to Mr. Pyon for his time and attention during the interview that was conducted at the U. S. Patent and Trademark Office on December 4, 1996.

One point discussed during the interview involved the reference at several places in the application (i.e., line 35 of page 1 and lines 5, 12 and 26 of page 5) to U. S. Patent No. 4,088,488. It is to be noted that lines 11 and 28 on page one of the application make reference to U. S. Patent No. 4,088,448. It is this latter U. S. Patent No. which is the correct number and so the application has been changed at the appropriate places to refer to U. S. Patent No. 4,088,448 rather than 4,088,488. Also, filed concurrently with this Amendment is an Information Disclosure Statement forwarding a copy of U.S. Patent No. 4,088,448.*

During the course of the interview, the Examiner questioned the location of the outlet in the microcuvette of the present invention. The microcuvette of the present invention is designed to be used in such a way that an outlet *per se* is not particularly relevant. By way of example, the microcuvette of the present invention can be utilized to sample blood from an individual's finger for subsequent analysis. In this regard, by pricking the finger of an individual to create a small quantity of blood, the inlet of the

*It is noted that the Examiner Interview Summary Record completed by Mr. Pyon at the completion of the interview indicates that the reference to U. S. Patent No. 4,088,448 is in error. In fact, this is not in error. Rather, as noted above, it is the reference to U. S. Patent No. 4,088,488 that is erroneous.

microcuvette can then be placed adjacent the drop of blood, whereby the blood is drawn into the microcuvette through the inlet. The channel is then filled along its length due to its high capillary action, whereupon the sample is able to propagate into the rest of the cavity in a flow pattern that prevents air bubbles from being captured in the measuring zone. Thus, it is seen that the presence of an outlet *per se* is not particularly relevant in the present invention, although it is noted that the outer peripheral edge 7 is open along its extent between the opposite ends of the channel 10 as shown in Fig. 3.

Submitted with this Amendment are amended versions of Claim 10 and 11 that address the issues raised on page two of the Official Action. It is believed that the claims fully comply with the requirements of 35 U.S.C. § 112, second paragraph and so the claim rejection based on that section of the patent statute should be withdrawn.

The other issues discussed during the interview centered on the disclosure contained in U. S. Patent No. 4,756,884 to *Hillman et al.* and U. S. Patent No. 3,565,537 to *Fielding*. As was pointed out during the interview, *Hillman et al.* discloses a capillary flow device provided with a receiving chamber 58, a reaction chamber 60 connected to the receiving chamber 58 by way of a capillary 66, and an effluent chamber 62 connected to the reaction chamber 60 by way of a capillary 76. An inlet 64 is connected to the receiving chamber 58, an intermediate vent 72 is connected to the capillary 76, and an exit vent 74 is connected to the effluent chamber 62. As was pointed out during the interview, even if one interprets the disclosure contained in *Hillman et al.* such that the capillary 76 corresponds to the claimed measuring zone while the effluent chamber 62 corresponds to the claimed channel, it is rather apparent that the effluent

chamber or channel 62 disclosed in *Hillman et al.* is not sized relative to the measuring zone or capillary 76 such that the chamber 62 has a higher capillary force than the capillary 76. That is rather apparent from the fact that the distance between the walls in the effluent chamber 62 is much greater than the distance between the walls in the capillary 76. Accordingly, the claimed capillary microcuvette of the present invention as set forth in Claims 9 and 16 is patentably distinguishable over the disclosure contained in *Hillman et al.*

Concerning the disclosure contained in *Fielding*, the Examiner noted during the interview that the disclosed specimen holder includes an upper plate 10 and a lower plate 16. The upper plate includes a recess 11 that extends from one edge 12 of the upper plate towards the center of the plate. The upper plate 10 is provided with a central aperture 13 that is designed to intersect the recess 11. In addition, a first ridge 14 is positioned in surrounding relation to the recess 11 while a second ridge 15 extends adjacent the periphery of the upper plate 10 and eventually joins the first ridge 14. During the interview, Mr. Pyon indicated that the tapering nature of the first ridge 14 might be said to define a channel having a higher capillary force than the thin flat space 17. However, one very important point was overlooked during the interview.

As discussed in column 2, lines 36-40 of *Fielding*, the lower plate 16 is ultrasonically welded to the upper plate 10 to produce the specimen holder illustrated in Fig. 3. *Fielding* specifically states that the first and second ridges 14, 15 "serve as energy directors for the ultrasonic waves" during ultrasonic welding of the two plates 10, 16. Thus, it is rather apparent that once the two plates 10, 16 are ultrasonically welded

together, the two ridges 14, 15 are eliminated. This conclusion is supported by the illustration in Fig. 3 which shows the lower surface of the upper plate 10 being in direct contacting relation to the upper surface of the lower plate 16. If in fact the ridges 14, 15 were actually present after the ultrasonic welding of the two plates 10, 16 to one another, there would be a very definite gap between the lower surface of the upper plate 10 and the upper surface of the lower plate 16. Fig. 3 clearly illustrates that there is no such gap. The reason being that the ridges 14, 15 are removed during the ultrasonic welding. In light of the foregoing and given that *Fielding* is not at all concerned with providing a channel having a higher capillary force than a measuring zone in order to prevent air bubbles from becoming trapped in the measuring zone, it is submitted that the claimed microcuvette of the present invention is patentably distinguishable over the disclosure contained in *Fielding*.

One additional point should be noted with respect to the *Fielding* disclosure. During the interview, the Examiner indicated that the portion of the upper plate identified with reference numeral 11 in Fig. 1 constitutes a ledge that extends radially inwardly towards the center of the aperture 13. However, a careful reading of the disclosure in *Fielding* reveals that the element designated by reference numeral 11 is in fact a recess which *Fielding* states is produced by "optically polished flat and undistorted mating surfaces on the [injection molding] die" (see column 2, lines 23-29 of *Fielding*).

The other documents relied upon in the Official Action, U. S. Patent No. 5,147,607 to *Mochida* and U. S. Patent No. 4,596,695 to *Cottingham* fail to make up for the deficiencies pointed out above with respect to the disclosures contained in *Hillman et*

al. and *Fielding*. Accordingly, even assuming those documents disclose that which they are said to disclose and even assuming a person of ordinary skill in the art would have somehow been motivated to incorporate the disclosures contained in those documents into the devices disclosed in *Hillman et al.* and *Fielding*, the resulting device would still not be the same as the claimed invention at issue here.

Early and favorable action with respect to this application is respectfully requested.

Should any questions arise in connection with this application or should the Examiner believe that a telephone conference with the undersigned would be helpful in resolving any remaining issues pertaining to this application, the undersigned respectfully requests that he be contacted at the number indicated below.

Respectfully submitted,

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Date: December 6, 1996